A NEW METHOD

OF

CLOSING A LARYNGEAL FISTULA.

BY

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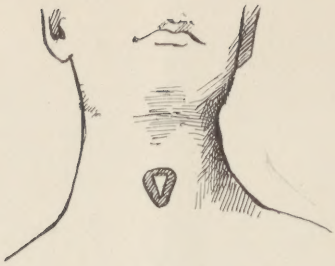

FIG. 1.

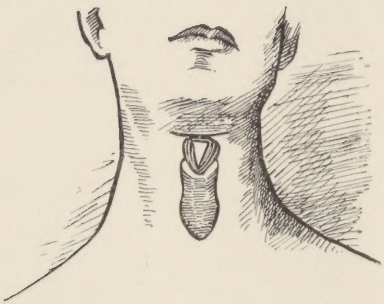

FIG. 2.

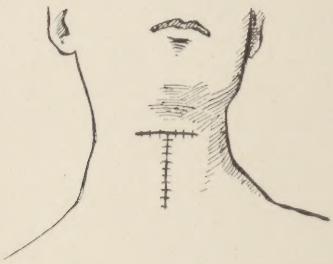

FIG. 3.

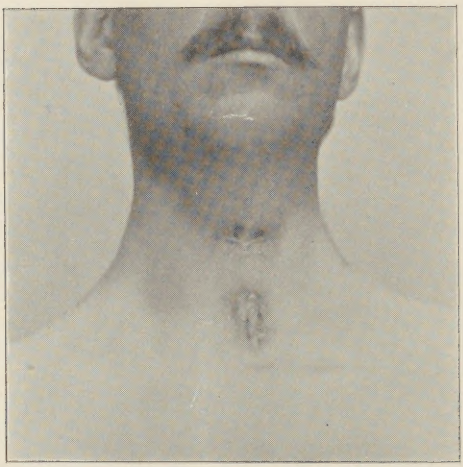

FIG. 4.—Appearance of wound after healing had taken place.

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Mr. N. O., aged twenty-four years, a man of powerful physique, was sent to St. Luke's hospital on November 15, 1893, having been referred to me through the kindness of Dr. W. W. Reed, of Fowler, Colorado. He gave a history of having attempted suicide by cutting his throat on October 27 of that year. He had made use of a razor for this purpose, and throwing his head back, had cut his throat almost from ear to ear. One or both of the external jugular veins had been severed, and the deeper vessels barely missed. The larynx was completely cut through on a plane with the ventricular bands, and immediately over them. His life was almost sacrificed to hemorrhage before Dr. Reed reached him. After taking appropriate measures to check the bleeding, the doctor sutured the wound. The patient subsequently made another attempt to end his life by drawing out the stiches, and by so doing infected the wound. The result was a profuse suppuration, and Dr. Reed, in order the better to defend the larynx from this pus, excised the upper portion of the thyroid cartilage, which had been severed in the original injury. Soon after this the patient came under my care.

On examination I found an infected wound extending from sterno-mastoid to sterno-mastoid, and the upper part of the larynx was completely exposed. Under careful dressing the lateral wounds healed rapidly, but nature made no attempt to close the laryngeal opening. Unfortunately, I did not have him photographed at this time, but Fig. 1 gives a crude idea of the appearance of the larynx. The central space shown in this drawing represents the opening between the ventricular bands when they were quiescent. It was observed, however, that in the attempt at phonation these bands came together in the same way as the vocal cords.

On February 14, 1894, I operated upon him for the closure of this laryngeal fistula. It was apparent to me that any operation which would close the opening must provide a mucous membrane for the anterior laryngeal wall. I was not familiar with any method which had been proposed for the closure of this fistula which contemplated this, so I devised the following operation. Fig. 2 shows the lines of incision. The first step consisted in completely denuding the margin of the fistula. A gauze sponge packed into the opening prevented the blood from entering the larynx until hæmostasis was effected. I then made an incision which outlined a tongue-shaped flap, as shown in Fig. 2, which extended downward to the supra-sternal notch. This flap had a width slightly greater than the denuded

fistula. I then dissected the flap upward, beginning at its tip below, until I reached a point within a half-inch of the lower margin of the opening. This made a base for my flap for the purpose of blood-supply. It was then turned upward upon itself and stitched in position with catgut sutures to cover over the fistula.

It will be observed that the skin surface was turned inward, and I expected that it would be transformed into a mucous membrane which would line this adventitious anterior laryngeal wall. I then dissected up the tissues on either side of the larynx and of the wound left by the removal of the flap, also the tissue above the larynx, and by gliding them toward each other sutured them in place, completely covering the inverted flap which closed the larynx. The appearance at the end of the operation would be represented in Fig. 3.

I found it practically impossible during the operation to keep the patient under the influence of the anæsthetic, owing to the admission of air through the fistula. In fact, I think he was hardly ever profoundly narcotized. As I remarked to those present at the time, an operation on board a ship in a storm would have been about as easy of accomplishment.

The patient made an uneventful and perfect recovery. The superficial silk-worm-gut sutures were removed on the eighth day. Unfortunately, firm union had not been secured at the lower end of the incision, so there was a little gaping at that point. This, however, was closed promptly. The scar remaining from this will be seen in Fig. 4, below the cicatrix which marks the position of the fistula. This cut was made from a photograph which was obtained some two months after the operation. The man is to-day perfectly well. His voice is good, but low pitched. He tells me, however, and this statement is corroborated by his sister, that it has always been so, and that it is but little changed from what it was before the injury.

So far as I know, this method has never been adopted before in closing a laryngeal fistula. Its perfect and, I might add, almost unlooked-for success in this case warrants me in presenting it to the profession.

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BY

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